CLAIMS

What is claimed is:

1. A vehicle suspension system comprising:

   a stabilizer bar including at least one bar disc connected to a vehicle wheel; and

   a clutch device substantially housing said at least one bar disc and including at least one clutch disc to be connected to a vehicle frame, said at least one bar disc and said at least one clutch disc substantially interacting to control a level of stiffness of said stabilizer bar.

2. The stabilizer bar as recited in claim 1 wherein a friction material is substantially coated on at least one of said discs.

3. The vehicle suspension system as recited in claim 2 wherein increased contact of each of said discs with said friction material substantially increases said level of stiffness of said stabilizer bar.

4. The vehicle suspension system as recited in claim 2 wherein said discs and said friction material are substantially enclosed by at least a pair of outer walls flexibly secured to a body of said clutch device and to said stabilizer bar.

5. The vehicle suspension system as recited in claim 4 wherein a load applied on said outer walls presses said outer walls towards said discs such that said friction material substantially contacts said discs.

6. The vehicle suspension system as recited in claim 5 wherein a fluid is dispersed in said clutch body.

7. The vehicle suspension system as recited in claim 5 wherein a sensor monitors at least one ride parameter and generates a signal based on said at least one ride parameter, said sensor applying said load on said outer walls corresponding to said signal.

8. The vehicle suspension system as recited in claim 5 wherein said load is fluid.

9. The vehicle suspension system as recited in claim 5 wherein said load is applied from electrical power.

10. The vehicle suspension system as recited in claim 5 wherein said load is applied from an electro-rheological fluid reactive to a signal generated by a sensor.

11. The vehicle suspension system as recited in claim 5 wherein said load is applied from a magnetic-rheological fluid reactive to a signal generated by a sensor.

12. The vehicle suspension system as recited in claim 1 wherein there are a plurality of said at least one clutch disc and said at least one bar disc, said plurality of discs substantially alternating.

13. The vehicle suspension system as recited in claim 1 wherein said discs and said friction materials are substantially perpendicular to a longitudinal axis of said stabilizer bar.

14. The vehicle suspension system as recited in claim 1 wherein said stabilizer bar includes a division which splits said stabilizer bar into substantially equal portions split to form a division, said clutch device housing said division.

15. The vehicle suspension system as recited in claim 1 further including a pair of inner walls flexibly secured to said body of said clutch device and to said stabilizer bar, one of said outer walls and one of inner walls forming a first compartment and the other of said inner walls and the other of said outer walls forming a second compartment, each of said discs being enclosed in one of said compartments, a load applied on said walls presses said inner walls outwardly and said outer walls inwardly such said discs substantially contact.

16. A vehicle suspension system comprising:

a stabilizer bar including at least one bar disc connected to a vehicle wheel;

a clutch device including a clutch body, at least one clutch disc connected to a vehicle frame, a pair of inner walls and a pair of outer walls both flexibly connected to said clutch body and said stabilizer bar, one of said outer walls and one of inner walls forming a first compartment and the other of said inner walls and the other of said outer walls forming a second compartment, a fluid and said discs being enclosed in said compartments, said at least one bar disc and said at least one clutch disc substantially alternating and interacting to control a level of stiffness of said stabilizer bar; and

a sensor which monitors at least one ride parameter and generates a signal based on said at least one ride parameter, said sensor applying a load pressing said inner walls outwardly and said outer walls inwardly such that said discs substantially contact.

17. The vehicle suspension system as recited in claim 16 wherein increased contact of each of said discs with a friction material substantially increases said level of stiffness of said stabilizer bar.

18. The vehicle suspension system as recited in claim 16 wherein said stabilizer bar includes a division which splits said stabilizer bar into substantially equal portions split to form a division, said clutch device housing said division.

19. The vehicle suspension system as recited in claim 16 wherein each of said discs is enclosed in one of said compartments.

20. The method for controlling a level of stiffness of a stabilizer bar of a vehicle suspension system comprising the steps of:

sensing at least one ride parameter;

generating a signal based on said at least one ride parameter;

applying a load corresponding to said signal on a pair of inner walls and a pair of outer walls both flexibly connected to a clutch body of a clutch device and said stabilizer bar, one of said outer walls and one of inner walls forming a first compartment and the other of said inner walls and the other of said outer walls forming a second compartment; and

interacting at least one bar disc attached to said stabilizer bar and at least one clutch disc attached to said clutch device, both said bar discs and said clutch discs being located in one of said compartments, by said load to control said level of stiffness of said stabilizer bar.